NAVAL POSTGRADUATE SCHOOL Monterey, California

AD-A236 943





THESIS

SUPPLY-SIDE ECONOMICS IN THE

REPUBLIC OF KOREA

рÀ

Hyung Chan, Son

June 1990

Thesis Advisor:

David R. Henderson

Approved for public release; distribution is unlimited

91-01821

REPORT D	OCUMENTATIO	N PAGE Form Approved OMB No 0704-0188								
1a REPORT SECURITY CLASSIFICATION Unclassified		16 RESTRICTIVE MARKINGS								
2a SECURITY CLASSIFICATION AUTHORITY		3 DISTRIBUTION	/AVAILABILITY OF	REPORT						
2b DECLASSIFICATION / DOWNGRADING SCHEDUI		Approved for public release;								
28 DECLASSIFICATION DOWNGRADING SCHEDU		distribution is unlimited								
4 PERFORMING ORGANIZATION REPORT NUMBE	R(S)	5 MONITORING ORGANIZATION REPORT NUMBER(S)								
6a NAME OF PERFORMING ORGANIZATION	6b OFFICE SYMBOL	7a NAME OF MO	ONITORING ORGAN	VIZATION						
	(If applicable)	i								
Naval Postgraduate School	code 54	L	Postgradu		chool					
6c. ADDRESS (City, State, and ZIP Code)		76 ADDRESS (Cit	y, State, and ZIP C	lode)						
Monterey, California 93	943-5000	Montere	ey, Califo	rnia	93943-5000					
8a. NAME OF FUNDING / SPONSORING	8b OFFICE SYMBOL	9 PROCUREMENT	INSTRUMENT IDE	NTIFICAT	ON NUMBER					
ORGANIZATION	(If applicable)									
8c ADDRESS (City, State, and ZIP Code)		10 SOURCE OF E	UNDING NUMBER	ς						
de Abbress (ery, state, and 211 code)		PROGRAM	PROJECT	TASK	WORK UNIT					
		ELEMENT NO	NO	NO	ACCESSION NO					
11. TITLE (Include Security Classification)										
	11 TITLE (Include Security Classification) Supply-side economics in the Republic of Korea (Unclassified)									
Supply-side economics	in the Repub	TIC OF KOR	rea (Uncl	.assı†	ied)					
12 PERSONAL AUTHOR(S)										
Hyung Chan, Son 13a TYPE OF REPORT 13b TIME CO	NUT DE D	14 DATE OF REPO	DT /Van Adamah	01	PAGE COUNT					
Master's Thesis FROM	TO	1990.Ju		Day)	74					
16 SUPPLEMENTARY NOTATION The Views	expressed in t	his thesis	are those o	f the	author and do					
not reflect the official polic	y or position o	of the Depar	tment of De	fense (or the U.S.					
Government. 17 COSATI CODES	18 SUBJECT TERMS (Continue on revers	a if pacaceasi, and	udont for	hy black number)					
FIELD GROUP SUB-GROUP	10 20BJECI JEWAIZ (continue on revers	e ii necessary and	identity t	by block humber)					
	Supply-si	de economi	cs, Tax r	ates,	Tax revenue					
19 ABSTRACT (Continue on reverse if necessary This thesis investigat			sta of "Do		miga" Couth					
Korean style. The study d										
measure the effect of cha										
nues.										
The main findings are										
tributed to income growth										
come above ten million wo										
group of Korean taxpayers										
rve. (2) However, with the					-					
revenues fell with the fa 65 million won. This resu										
1984 tax cut was coming.										
1983 into 1984 by taxpaye										
20 DISTRIBUTION AVAILABILITY OF ABSTRACT		21 ABSTRACT SEG	CURITY CLASSIFICA							
■ UNCLASSIFIED/UNLIMITED □ SAME AS R	PT DTIC USERS	Unclas		1133 25	TICE EVANDO					
22a NAME OF RESPONSIBLE INDIVIDUAL Professor David R. I	Henderson	226 TELEPHONE (408) 6			ode 54HT					
TIOLESSOL Dayta R. I	TETTUEL SOII	(400) 0	-U-6764	1 0	Are 14111					

DD Form 1473, JUN 86

Previous editions are obsolete

SECURITY CLASSIFICATION OF THIS FAGE
UNCLASSIFIED

19. ABSTRACT (continue)

Conversely, the reduction in tax rates in 1984 caused a rise in tax revenue for this high-income group. This evidence is also strikingly suggestive that these highest-income Korean taxpayers were previously in the prohibitive region of the Laffer curve.

Approved for public release; distribution is unlimited

Supply-Side Economics in the Republic of Korea

by

Hyung Chan, Son Captain, Republic of Korea Army B.S., Korea Military Academy, 1984

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL

June 1990

Author:

Hyung Chan, Son

Approved by:

David R. Henderson, Thesis Advisor

Danny G. Matthews, Second Reader

David R. Whipple, Chairman Department of Administrative Sciences

ABSTRACT

This thesis investigates in detail the effects of "Reaganomics" South Korean style. The study describes Korea's tax system and attempts to measure the effect of changes of the Korean tax rate on total tax revenues. The main findings are as follows: (1) Lowering marginal tax rates contributed to income growth and increased tax revenues for people with income above ten million won in 1985 won. This evidence suggests that this group of Korean taxpayers was in the prohibitive region of the Laffer curve. (2) However, with the first installment of the tax cut in 1982, tax revenues fell with the fall in tax rate for taxpayers with incomes above 65 million won. This result makes sense because the taxpayers knew the 1984 tax cut was coming. Income could have been deferred from 1982 and 1983 into 1984 by taxpayers having the flexibility to do so. Conversely, the reduction in tax rate in 1984 caused a rise in tax revenue for this high-income group. This evidence is also strikingly suggestive that these highest-income Korean taxpayers were previously in the prohibitive region of the Laffer curve.

TABLE OF CONTENTS

1.	INT	RODUCTION	1						
	A.	BACKGROUND	1						
	В.	THESIS OBJECTIVES	1						
	C.	SCOPE, LIMITATIONS, AND ASSUMPTIONS	2						
	D.	METHODOLOGY	3						
	E.	ORGANIZATION	3						
II.	TH	E THEORY OF SUPPLY-SIDE ECONOMICS	4						
	A.	HOW MARGINAL TAX RATES AFFECT INCENTIVES	5						
	B.	THE LAFFER CURVE	8						
		1. What It Is	8						
		2. The Prohibitive Region	9						
	C.	EVIDENCE FROM THE UNITED STATES	9						
III.	ТН	E KOREAN TAX SYSTEM	12						
	A.	HISTORY	12						
	В.	THE TAX SYSTEM AFTER THE FORMATION OF THE GOV-							
		ERNMENT OF THE ROK	12						
		1. The Period of Formation of the New Government and of the							
		Korean War	13						
		2. The Period of Postwar Rehabilitation	13						
		3. The Period of Economic Development	14						
		4. The Period of Sustained Economic Growth	14						
		5. The Period of Economic Setback and Upturn	15						
		6. The Period of Stabilization and Liberalization	15						

	C.	THE ROLE OF THE INTERNATIONAL MONETARY FUND	
		(IMF)	16
	D.	SUMMARY	19
IV.	DA	TA PRESENTATION AND ANALYSIS	20
	A.	HOW THE KOREANS FIT THE LAFFER CURVE	20
	B.	ANALYSIS OF TAX CUTS FOR INCOMES ABOVE TEN MIL-	
		LION WON	21
	C.	ANALYSIS OF TAX CUTS ABOVE 65 MILLION WON	25
	D.	ANALYSIS OF THE INCOME TAX CUT BY PERCENTILE IN-	
		COME GROUP	28
V.	СО	NCLUSIONS	34
	A.	SUMMARY	34
	B.	ANALYSIS	34
	C.	FUTURE DIRECTION	35
APPE	ENDI	X A: PRINCIPAL ECONOMIC INDICATORS	36
APPE	ENDI	X B: GLOBAL INCOME TAX BY TAX BRACKETS	39
APPE	ENDI	X C: GLOBAL INCOME TAX BY TAX BRACKETS	
(IN 19	985 \	WON)	50
LIST	OF I	REFERENCES	61
INITI	AL I	DISTRIBUTION LIST	62

LIST OF TABLES

4.1	Analysis of Income Tax Cut (Above 10 Million Won Tax Brackets)	22
4.2	Taxpayers, Tax Basis, and Tax Revenue for Taxpayers With Income	
	Over 10 Million Won	23
4.3	Analysis of Income Tax Cut (Above 65 Million Won Tax Brackets)	26
4.4	Taxpayers, Tax Basis, and Tax Revenue for Taxpayers With Income	
	Over 65 Million Won	27
4.5	Tax Revenue Trend by Income Group	30
4.6	Trend of Capital Gains Tax Revenue	33
A .1	Gross National Product in Korea, 1954-1988	36
A.2	Balance of Payments in Korea, 1952-1988 (US \$million)	37
A.3	Price Indexes in Korea, 1966-1988	38
B.1	Global Income Tax By Tax Brackets (1976)	3 9
B.2	Global Income Tax By Tax Brackets (1978)	40
B.3	Global Income Tax By Tax Brackets (1979)	41
B.4	Global Income Tax By Tax Brackets (1980)	42
B.5	Global Income Tax By Tax Brackets (1981)	43
B.6	Global Income Tax By Tax Brackets (1982)	44
B.7	Global Income Tax By Tax Brackets (1983)	45
B .8	Global Income Tax By Tax Brackets (1984)	46
B.9	Global Income Tax By Tax Brackets (1986)	47
B.10	Global Income Tax By Tax Brackets (1987)	48
B .11	Global Income Tax By Tax Brackets (1988)	49
C.1	Global Income Tax By Tax Brackets (1976)	50

C.2	Global l	income	Tax	Ву	Tax	Bı	racke	ets (1978) .	•	•	 •	•	•	 •	٠	•	•	51
C.3	Global 1	Income	Tax	Ву	Tax	B	racke	ets (1979) .	•		 							52
C.4	Global 1	Income	Tax	Ву	Tax	B	racke	ets (1980) .			 			 				53
C.5	Global 1	Income	Tax	Ву	Tax	B	racke	ets (1981) .		•	 			 				54
C.6	Global	Income	Tax	Ву	Tax	B	racke	ets (1982) .	•		 	•		 		•		55
C.7	Global 1	Income	Tax	Ву	Tax	B	racke	ets (1983) .			 			 . .				56
C.8	Global	Income	Tax	Ву	Tax	B	racke	ets (1984) .			 			 				57
C.9	Global 1	Income	Tax	Ву	Tax	B	racke	ets (1986) .					•					58
C.10	Global	Income	Tax	Ву	Tax	B	racke	ets (1987) .										59
C.11	Global 1	Income	Tax	By	Tax	B	racke	ets (1988) .										60

LIST OF FIGURES

2.1	Laffer Curve	8
3.1	Korean Taxation	17
4.1	Tax Revenue Trend by Income Group	31

I. INTRODUCTION

A. BACKGROUND

The Republic of Korea is a small (99,000 square kilometers) and densely populated country of forty-one million people with limited natural resources. (Korean Overseas Information Service, 1989, pp. 15-19) From the end of the Korean War in 1953 until the Park Chung Hee's administration in 1961, Korean real GNP grew annually by an average of 4.6%. Table A.1 in Appendix A shows this GNP amount, the real growth rate, and the per capita GNP of Korea from 1954-1988. From 1961-1980, Korea experienced high growth, averaging 8.3% per year. Since 1981, growth has increased to an average of 9.4%. In per capita terms, annual income increased from under \$100 during the 1950s to \$4,040 in 1988. Furthermore, as shown in Table A.2 in Appendix A, the Korean economy has achieved a current account surplus, where exports have exceeded imports since 1986. As a result of sustained high growth, Korea has emerged from one of the poorest agrarian countries to a lower middle income industrialized country.

B. THESIS OBJECTIVES

Most economists in the world have analysed the high economic growth of Korea from various aspects of economic policy and the environment of the international economic situation. But few economists have analysed the effect of the tax rate on the Korean economic growth. From the "supply-side economics" viewpoint, one of the major causes of Korea's high growth is that the government has kept marginal tax rates on income relatively low. This factor is supported by American economists' findings that one factor in the U.S. economy's growth in the 1980s has

been low marginal tax rates. Henderson summarized this issue in his paper, "Are We All Supply-siders Now?" (Henderson, 1989, pp. 118-122)

The object of this study is to describe and evaluate the tax systems of Korea and to attempt to measure the effect of changes of the Korean tax rate on total tax revenues. In particular, this thesis looks at the effect of cuts in marginal tax rates on revenues collected by the individual income tax. The findings will be of interest to the tax-policy makers of Korea and also policy makers in other less advanced developing nations, who may wish to achieve high economic growth through the formulation of new tax policies.

C. SCOPE, LIMITATIONS, AND ASSUMPTIONS

Many studies have shown that cuts in tax rates for the highest-income taxpayers actually have increased the government's tax revenue. The term "supply-sider" has come to mean one who believes that an X% cut in tax rates will lead to much less than an X% cut, and to perhaps even an increase, in tax revenue. (Henderson, 1989, p. 116) Cutting tax rates will affect the incentive to work, to save, to invest, and to avoid and evade taxes. This thesis will investigate in detail the effects of "Reaganomics" Korean style and will suggest proper tax policies for South Korea in the 1990s.

Most of the data presented in this study was received by mail from official sources in Korea because I could not travel to Korea myself. Therefore, this thesis is limited by the amount of data available.

This thesis assumes that methods of American economists, as they relate to supply-side economics, can be applied to an analysis of Korean supply-side economics.

D. METHODOLOGY

The basic form of this study is descriptive. This thesis will be based on a study of real data on Korean Individual Income Tax Rates and Tax Revenues in each tax bracket. The methods of data analysis are the same as those used by U.S. economists in the analysis of Where are Koreans on the Laffer Curve?

E. ORGANIZATION

The rest of the thesis consists of four chapters.

Chapter II presents the theory of supply-side economics. This chapter includes tax incentives, the Laffer Curve, and evidence related to the Laffer Curve in the U.S.

Chapter III examines the Korean Tax System and includes history of the tax system and the role of the International Monetary Fund (IMF).

Chapter IV presents the position of Korea on the Laffer Curve and what has happened to revenues over a period of time.

Chapter V analyzes and presents conclusions based on the present research.

A future tax policy for South Korea is suggested based on these conclusions.

II. THE THEORY OF SUPPLY-SIDE ECONOMICS

Supply-side economic policies were initiated by President Ronald Reagan during his administration. A coined term for supply-side economics is "Reaganomics", attributing this concept to President Reagan.

Often ignored in the past, the concept of supply-state economics has recently been developed by supply-side economists. James D. Gwartney and Richard L. Stroup defined supply-side economics as the belief that changes in marginal tax rates exert important effects on aggregate supply (Gwartney and Stroup, 1987. p. 253). Gwartney and Stroup stated

that the supply-side argument provided the foundation for the Reagan tax policy, which led to significant reductions in marginal tax rates in the United States during the 1980s.

A second definition is provided by Barry P. Bosworth, showing supply-side economics in two different senses:

- 1) a broad interest in the determinants of aggregate supply the volume and quality of the capital and labor inputs and the efficiency with which they are used
- 2) A narrower focus on tax reductions as a means of increasing the supply of savings, investment, and labor. (Bosworth, 1984, p.1)

Keynesian economics is an alternative to supply-side economics. The Keynesian model relies on a fixed-price view of the economy, emphasizing the growth of demand as a key element in determining the growth of future supply, allowing for investment

incentive implications. (Bosworth, 1984, p. 11) Keynes' view was that consumer demand creates its own supply.

Give people more money to spend, by running budget deficits and printing money and goods and services will be produced to supply this demand. (Bartlett and Roth, 1983, p. 1)

Therefore, government fiscal policy could be used as a lever to increase total demand and, in turn, increase total production and GNP. Thus, the mainspring of Keynesian economics is the belief that an increase in government spending via a tax increase will produce an increase in GNP. Conversely, a cut in tax rates would result in a reduction in total spending, a reduction in GNP, and a rise in unemployment.

However, the Keynesian view of economics has been contested by supply-side economics. Supply side economists realize that

Fiscal policy causes changes not just in demand but also in supply. (Fink, 1982, p. 2)

When marginal tax rates are high, consumers pursue additional leisure and additional current consumption, rather than current income and extra future income. Thus, work effort and investment declines, causing a fall in production and GNP, regardless of the level of aggregate demand.

This thesis deals primarily with the contention of supply-side economics, the view that a reduction in marginal tax rates effect economic growth.

A. HOW MARGINAL TAX RATES AFFECT INCENTIVES

The effect of individual or corporate tax rates on economic growth has not been studied in depth. In the past, the structures of direct and indirect taxation have not been altered to provide positive incentives or to minimize disincentives, which could promote economic growth – the main focus of modern day supply-side economics. Most studies have instead dealt with issues of redistribution and the progressivity or regressivity of the tax systems, rather than with growth. (Rabushka, 1987, p. 4)

Professor Paul Craig Roberts suggested that two important relative prices must be considered in supply-side economics. The first governs people's decisions about the allocation of their income between consumption and saving (Roberts, 1984, p. 36). The cost to the individual of allocating a unit of income to consumption or savings is the future value of that unit that is given up by not consuming or saving. The value of this unit of income is determined by marginal tax rates. Thus, a high tax rate makes consumption cheap, causing a decline in saving and investment. Conversely, a low tax rate will cause an increase in savings and investment and a decline in consumption.

The second price governs people's decisions about the allocation of their time between work and leisure. (Roberts, 1984, p. 36) The cost to a person of allocating another unit of time to leisure versus to work is the current earnings given up by not working. Included in this cost is the future possible income given up by not utilizing leisure time to improve work skills. The value of the foregone income is determined by the rate at which additional income is taxed. Thus, the higher the marginal tax rates, the cheaper the price of leisure. Therefore, the cost of leisure increases as marginal tax rates decrease.

The marginal tax rate determines the amount of retained income as well as the amount of taxed income. For example, a Korean earning twenty million won in taxable income per year, has a marginal tax rate of 35%, according to current Korean personal tax rates (See Appendix C, Table C.11). If he earns an extra one million won due to overtime work or by improving his work skills, then he retains 650,000 won and pays 350,000 won of additional earnings to the taxing authority.

But in 1976 (Table C.1), this same person faced a marginal tax rate of 50%. Therefore, (in the above example), he would have kept only 500,000 won of the one million won in additional income. This difference in won retention, caused by the change in marginal tax rates, would make workers less likely to accept an opportunity to earn extra income.

Another example deals with a Korean carpenter facing a 40% marginal tax rate. Of every additional 10,000 won earned, he retains 6,000 won. If his house needs painting, the carpenter can hire a painter for 7,000 won per day. As the carpenter's take-home pay is only 6,000 won, he would save 1,000 won by painting his own house. If, however, the carpenter's marginal tax rate is 20%, he will work to earn the same amount, retaining 1,000 won after the tax payment and the hiring of the painter. In this case, the lower marginal tax rate influences the amount of labor that is used to produce taxable income, which is increased by 10,000 won for the Korean carpenter.

A third example can be shown in the case of a Korean businessman deciding whether to take a business trip that costs 1,000,000 won. Facing a 50% marginal tax rate, the businessman's cost of the trip is 500,000 won, assuming full deductibility of the cost of the trip. But, at a 35% marginal tax rate, the cost of the same business trip would be 650,000 won. Therefore, under the higher marginal tax rate, there would be a greater incentive to take the business trip, because the trip vould cost less.

From a supply-side viewpoint, the marginal tax rate is of crucial importance. Since consumers will shift their spending, saving, working, or leisure activities dependent upon the marginal tax rate, supply-siders emphasize that decreased tax rates could increase the total resources available, thereby increasing society's production possibilities.

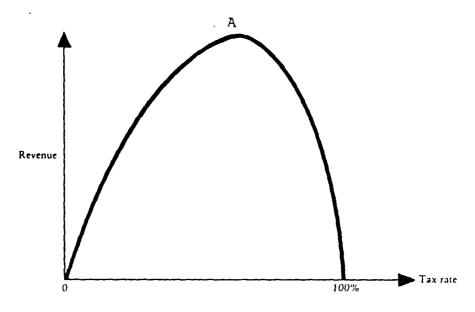


Figure 2.1: Laffer Curve

B. THE LAFFER CURVE

1. What It Is

In 1974, economist Arthur B. Laffer popularized the idea that higher tax rates can sometimes shrink the tax base so much that tax revenues will decline despite the higher tax rates. The mathematical curve illustrating this relationship between tax rates and tax revenues is now called the Laffer Curve. (Gwartney and Stroup, 1987, p. 115)

Figure 2.1 illustrates the concept of the Laffer curve for the taxation of income generating activity. Obviously, tax revenues would be zero if the tax rate were zero. In addition, tax revenues will also be zero if the tax rate were 100%. Confronting a 100% tax rate, most individuals would go fishing or find something else to do rather than engage in a productive activity that is taxed. Production in the taxed sector would come to a halt, and without production, tax revenues would decline to zero.

As tax rates are reduced from 100%, the incentive to work and earn taxable income increases, income expands, and tax revenues rise. Clearly, at some rate greater than zero but less than 100%, tax revenues will be maximized (Point A).

Since the amount of taxation affects the income being taxed, a change in tax rates will not lead to a proportional change in tax revenues. As the Laffer curve indicates, beyond some Point A, an increase in tax rates may actually cause tax revenues to fall. As Point A is approached from zero, large increases in tax rates will lead to only a small expansion in tax revenue. Therefore, a careful analysis should be conducted to determine the benefit of a tax rate increase at this level of revenue.

2. The Prohibitive Region

As drawn in Figure 2.1, the Laffer curve plots total revenue against the tax rate. The shape of the curve shows that a given revenue can be collected at one of two tax rates. The first tax rate occurs in the upward sloping portion of the curve, called the "normal" range, and the second tax rate occurs in the downward sloping portion of the curve, called the "prohibitive range". The prohibitive range is so named because high tax rates lead to a decline in economic activity.

C. EVIDENCE FROM THE UNITED STATES

Since Arthur B. Laffer first drew his famous curve, there has been considerable public debate about the possibility of an inverse relationship between tax rates and government tax revenue. During the 1980's, studies were done examining the affect of tax rates on tax revenues.

Henderson (1989) summarized the evidences of the Laffer curve in his paper, "Are we all supply-siders now?" (Henderson, 1989, p. 118-122) He included the studies of Gwartney and Stroup, Lindsey and CBO, and Long and Gwartney.

First, Henderson discussed Gwartney's and Stroup's findings on the 1964 tax cut. Gwartney and Stroup (Henderson, 1989, p. 118-119) found a relative strong response for the top five percentile of tax returns. Revenues from the top five percentile rose from \$17.17 billion in 1963 to \$18.49 billion in 1965, an increase of 7.7%. That this group's contribution to tax revenues rose even though their rax rate fell substantially is strikingly suggestive evidence that these taxpayers were in the prohibitive region of the Laffer curve. (Henderson, 1989, p. 119)

Next Henderson discussed studies of the 1981 tax cut done by Lindsey and by the Congressional Budget Office (CBO). Lindsey (Henderson, 1989, pp. 119-120) found that the U.S. economy as a whole was not in the prohibitive region of the Laffer Curve. Lindsey found that revenues (after this tax cut) from people with adjusted gross income (AGI) of \$200,000 or more were higher by \$0.67 billion in 1982, by \$2.72 billion in 1983, and by \$8 billion in 1984. (Henderson, 1989, p. 120) Based on his estimates, Lindsey concludes that if the U.S. wanted to retain a graduated tax system with lower tax rates for taxpayers with incomes below \$50,000, then the tax rate for the highest-income taxpayers would maximize federal revenues would be about 35%. (Henderson, 1989, p. 120) The Congressional Budget Office researchers (Henderson, 1989, pp. 120-121) found that revenues from the taxpayers in the top 0.18% of the income distribution were the same in 1982, were higher by \$1.5 billion in 1983, and higher in 1984 by \$4.4 billion. The evidence reported here is striking in that a cut in the tax rates for the highest-income taxpayers was revenue enhancing even in the short run. This factor would be even more enhancing in the long run. (Henderson, 1989, p. 121)

Finally, Henderson summarized cross-state evidence from Long and Gwartney. Long and Gwartney (Henderson, 1989, pp. 121-122) examine cross-sectional evidence for 1979 on the state tax rates' affect on tax avoidance. They argue that differences in tax avoidance across states should measure the long-run impact of differences in tax rates. This argument is based on the fact that the states have either had low or high tax rates over a long period of time. A large impact was discovered. On the basis of Long's and Gwartney's estimates, one may reasonably conclude that an increase in marginal tax rates above 1979 levels for taxpayers with pre-avoidance taxable incomes of more than \$60,000 in 1979 dollars, or about \$97,000 in 1988 dollars, would have decreased tax revenues. (Henderson, 1989, pp. 121-122)

These studies are broadly consistent and describe the evidence on the Laffer Curve. Conclusions from this evidence show

that a cut in tax rates for low- and middle-income taxpayers reduced revenues and that a cut in tax rates for very high-income taxpayers increased revenues. (Henderson, 1989, p. 122)

III. THE KOREAN TAX SYSTEM

A. HISTORY

Feudal dynasties evolved from the foundation of the Ancient Chosun Dynasty which existed in Korea about 4,000 years ago. According to historical records, the Three Kingdoms, the Koryo and the Chosun dynasties incorporated feudal tax systems. The "Cho" (land tax), the "Yong" (labor obligation) and the "Jo" (tribute) were the principal taxes of these dynasties. (Ministry of Finance, 1987, p. 19) Of these taxes, the land tax was the prime source of revenue, and was reformed continuously. This feudal tax system disappeared at the end of the Chosun Dynasty.

The present system was formed with the introduction of Western culture. This system followed the formation of the Government of the Republic of Korea (ROK) in 1948. The current tax system has no relationship to the oriental tax system of the feudal periods.

B. THE TAX SYSTEM AFTER THE FORMATION OF THE GOV-ERNMENT OF THE ROK

The development of Korea's tax system can be divided into six distinct periods.

(Ministry of Finance, 1987, pp. 9-13) These periods are:

- From the formation of the new government in 1948 until the 1953 Korean War armistice,
- the postwar rehabilitation from 1954-1961,
- early economic development from 1962-1967,
- Sustained export-oriented economic growth from 1968-1973,

- economic setback and upturn of 1974-1979,
- stabilization and liberalization from 1980 to the present.

Each of these periods is discussed below.

The Period of Formation of the New Government and of the Korean War

Korea's current tax system was formed in 1948. The taxes formed at this time were a personal income tax, a corporation income tax, and a liquor tax. These taxes were followed by ten more laws encompassing inheritance, travel and various commodities. (Rabushka, 1987, p. 147)

The Korean War caused an immediate need for additional revenue. In 1950, the Land Tax and the Temporary Tax Revenue Increase Laws were revised to provide additional revenues required to finance the war effort. (Ministry of Finance, 1987, p. 20)

2. The Period of Postwar Rehabilitation

The start of the postwar rehabilitation period began with the Korean armistice. The government abolished the special Measure Law for taxation and the Temporary Tax Revenue Increase Law. (Ministry of Finance, 1987, p. 20) Placing reliance upon a report prepared by H. P. Wald, the textile tax was merged into the commodity tax, and the license tax was transferred from the central government to local authorities. (Ministry of Finance, 1987, p. 20) The income tax system was divided into schedular (wages and salaries, real estate income, and business income) taxes with flat rates and a global tax with progressive rates. (Ministry of Finance, 1987, p. 20)

Three new taxes were introduced to increase tax revenue in 1958. The three new taxes were an education tax levied as a surtax to the personal income tax,

an asset revaluation tax, and a foreign exchange tax (abolished in 1963). (Rabushka, 1987, pp. 148-149)

Serious criticisms were leveled against the tax system during the 1950s. The criticisms emphasized the negative effect on business expansion because of the extremely high rates that were applied to business income.

3. The Period of Economic Development

Park Chung Hee's military government took over the Liberal party government in May 1961. In 1981, mounting opposition to high tax rates applied on business income and unfair assessment practices brought fundamental changes in the tax system. Examples of these changes include: (1) a reduction in personal income and education tax rates, (2) the lowering of corporate tax rates, (3) the reduction of the tax on corporate profits reserved for reinvestment in plant and equipment, and (4) the provision of incentives for export industries. (Rabushka, 1987, p. 149)

Additionally, this period of economic development saw laws passed governing tax reduction and exemption to encourage export industries and an increase of special tax concessions to foreign investors.

4. The Period of Sustained Economic Growth

Twelve of the nineteen existing tax laws were changed and a new real estate speculation control tax was introduced with the initiation of the tax reform in 1967. In an effort to mobilize domestic capital, several changes were made: the public corporation tax rate was reduced, dividends and interest on bank deposits were no longer taxable, and the tax rate for interest on private debts was increased. (Ministry of Finance, 1987, pp. 22-23)

This period also sought to relieve some of the tax burden on lower income persons. To do so, exemption limits were increased. Conversely, the tax burden on

higher income earners above five million won was increased by incorporating a global tax system with progressive rates. (Ministry of Finance, 1987, pp. 22-23)

5. The Period of Economic Setback and Upturn

The government's tax system was again completely reformed in December 1974. (Ministry of Finance, 1987, p. 24) The reform included a full-scale global income tax system to replace the earlier schedular and global system. Two important additions to the tax system at this time were the Value-Added Tax (VAT) and the Special Commodity Tax.

In 1976, personal income taxes were combined from five different types of tax income:

- Real Estate Income,
- Business Income,
- Wage and Salary Income Tax (A)1,
- Wage and Salary Income Tax (B)2,
- Global Income.

The major characteristics of this period were that the VAT was levied and that the personal income taxes were combined.

6. The Period of Stabilization and Liberalization

In this final period in Korea's tax development, the government reduced the tax incentives for key industries and began imposing indirect taxes. (Ministry of Finance, 1987, p. 28) Alvin Rabushka, in researching the tax system stated,

¹Tax for fixed income people, such as Government employees.

²Tax for non-fixed income people, such as construction workers.

to take off the sluggish growth of the economy in 1982, the Korean Government revised tax laws to boost economic performance. It reduced high rates of personal income tax. (Rabushka, 1987, p. 154)

Tables B.5-B.8 show that the highest income tax rate was reduced from 70% to 62% in 1982, and that a further reduction in 1984 brought it to 55%. These reductions and their effects will be discussed in detail in Chapter IV.

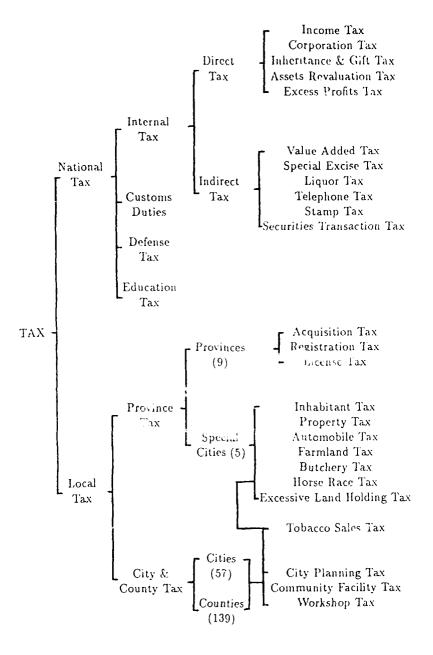
The present tax system is shown in Figure 3.1. The Korean tax system is comprised of both national and local taxes. National taxes are divided into the Internal Tax, customs duties, the Defense Tax, and the Education Tax. The latter two are specific purpose temporary taxes, expiring in 1990 and 1991 respectively. (Ministry of Finance, 1987, p. 31) Local taxes are divided into the province tax and the city and county tax. The Income tax is contained in the National tax, the Internal tax, and the Direct tax.

C. THE ROLE OF THE INTERNATIONAL MONETARY FUND (IMF)

As evidenced by the previous discussion, the Korean tax system has been continuously modified. In 1975, the International Monetary Fund (IMF) came into being and has played an important role in the formulation of Korea's tax policy. The information contained in this section has been provided by Dr. J. S. Kwon (IMF, 1990), a representative of the Korean government at the IMF.

The IMF has provided technical assistance in fiscal tax policy to the Korean government since 1975. The IMF's initial assistance included the implementation of the Value-Added Tax in 1977. Other recommendations and assistance was provided in the areas of excise taxes, corporate taxes, and taxes of financial assets.

The VAT recommended by the IMF replaced three major indirect taxes, the business, commodity, and textile product taxes. The IMF reviewed the tax policy



Source: Korean Taxation, Ministry of Finance, p. 31, 1987.

Figure 3.1: Korean Taxation

in 1982, following concerns about the effectiveness of the VAT. The IMF found that the VAT was an efficient and important source of revenue, and therefore, the VAT still exists as part of the Korean tax system.

THE IMF drafted a blueprint for the Korean tax system during the early 1980s. The Fund's report recommended that the tax system consist of five major taxes:

- A single rate VAT supplemented by special excise taxes,
- a fully globalized personal income tax system,
- an effective tax on transfers of wealth,
- an effective local property tax,
- tariffs for protective purposes.

However, only minor modifications were made to these taxes in the Korean tax system during this period.

In 1981, further recommendations for changes in the Korean tax system from the IMF included:

- A revenue neutral cut in marginal tax rates,
- the introduction of a penalty tax rate on interest income from fictitious named bank deposits,
- a reduction in the corporate tax rates.

According to the IMF,

few changes were made to incorporate these recommendations. (IMF, 1990, p. 2)

D. SUMMARY

Although the IMF has played an important technical and advisory role in the formation of the Korean tax system, it seems that many of the recommendations made to improve the system have not been implemented. Because of this information, the conclusion may be drawn that the 1982 and 1984 tax cuts were not a result of information provided by the IMF, but as a direct result of intervention on the part of the Korean government itself.

IV. DATA PRESENTATION AND ANALYSIS

A. HOW THE KOREANS FIT THE LAFFER CURVE

This chapter relates the data in Appendix C to economic theory. Appendix C shows the Korean Global income tax by brackets from 1976 to 1988. Between the years 1976 and 1981, income tax rates ranged from 8-70% depending on the tax bracket. Effective in 1982, the personal income tax rate range was reduced to 6-62%. A further reduction to 55% occurred in 1984 in the highest income tax bracket. As shown in Appendix C, each table shows tax rates, number of tax payers, the taxable income, and the tax revenues in each tax bracket.

In analyzing what happened to tax revenues according to the reduction in tax rates, three areas of data are examined: for incomes above ten million won, for incomes above 65 million won, and the percentile income for each group.

Two important points need to be mentioned at this point. Correspondence from Mr. I. K. Kim (Korea Military Academy, 1990) mentions that when the Korean government announced the 1982 tax cut, indication was given that tax rates would fall further in the next few years. The second point is that capital gains tax revenue rose from 6.5% of income tax revenue to 52.4% of income tax revenue from 1976 to 1986. (National Tax Administration, 1977, 1987, p. 51) This increase in capital gains may suggest that the higher bracket taxpayers were caught by capital gains taxes.

B. ANALYSIS OF TAX CUTS FOR INCOMES ABOVE TEN MIL-LION WON

As shown in Table 4.1, people earning above ten million won in the years 1976-1981 were in a 40-70% marginal tax bracket. However, the 1982 tax cut put the same group at a 32-62% marginal tax rate. The 1984 tax cut caused a further drop to the 24-55% range. These tax cuts for this group of high-income taxpayers affected the number of tax payers, the taxable income, and the tax revenue for this tax brackets.

Table 4.1 shows the number of taxpayers during 1976-1988. Before the tax cuts, the number of taxpayers in this group decreased by an average annual rate of 4.2% between 1976 and 1981. But after the tax cuts, the number of taxpayers grew at an annual rate of 24 percent from 1982-1988. Table 4.2 shows the percentage of Korean tax payers above 10 million won income. Before the tax cuts, this group had decreased from 7.2% of all taxpayers in 1976 to only 3.8% in 1981. However, after the tax cuts, this percentage has steadily increased from 3.8% in 1981 to 14.3% in 1987 and dropped slightly to 13.7% in 1988. This data therefore suggests that the 1982 and 1984 cuts in tax rates contributed to the increase in the number of taxpayers in this income bracket. Of course, other changes in the tax code, such as elimination of loopholes, might account for this. Unfortunately, I was unable to get data in time regarding other aspects of the change in the tax code.

The taxable income of the high-income tax payers was also affected by the tax cuts. Table 4.1 shows the amount of taxable income in each year from 1976-1988. Before the tax cuts, the taxable income decreased by an average annual rate of 4.7% from 1976 to 1981. But, after the tax cuts, the taxable income increased at an average annual rate of 23.7% from 1982-1988. The data also suggests that the tax cuts in the high-income brackets caused an increase in the amount of the taxable

TABLE 4.1: Analysis of Income Tax Cut (Above 10 Million Won Tax Brackets)

	1988	•	96,172	2,256,223	638,368
	1987	2	94,404	712,077 1,286,376 1,784,992 2,051,253 2,256,223	561,047
	1986	24 ~ 55	83,186	1,784,992	470,668
	1984	$21 \sim 55$	59,249	1,286,376	343,176
~	1983	$32 \sim 62$	34,968	712,077	233,724
YEAR	1982	$32 \sim 62$	28,198	597,395	200,962
	1981	$40 \sim 70$	22,443	525,550	186,814
	1980	40 ~ 70 35 ~ 70	22,143	533,881	290,854 222,590
	1979	40 ~ 70	28,275	682,582	290,854
	1978	40 ~ 20	24,963	668,394	302,250
	1976	40 ~ 70	28,927	683,101	289,293
	CLASSIFICATION	Tax Rate %	Tax Payers (Person)	Taxable Income*	Tax Revenue* (million won)

* Note: In 1985 Won (Table A.3 Price Indexes)

TABLE 4.2: Taxpayers, Tax Basis, and Tax Revenue for Taxpayers With Income Over 10 Million Won

						YEAR					
CLASSIFICATION	1976	1978	1976 1978 1979 1980 1981 1982	1980	1981	1982	1983	1984	1984 1986 1987	1987	1988
Tax Payers (As a percent of all taxpayers)	7.2	5.6	0.9		4.0 3.8	4.6	4.9		7.8 9.7 14.3	14.3	13.7
Taxable Income (As a percent of all Taxable Income)	48.6	46.2	48.6 46.2 44.7 37.8 34.2 34.3 34.6 43.9 48.7 50.5	37.8	34.2	34.3	34.6	43.9	48.7	50.5	51.1
Tax Revenue (As a percent of all Tax Revenue)	72.5	68.6	72.5 68.6 71.2 67.0 51.4 63.2 62.4 71.1 73.9 79.8	0.79	51.4	63.2	62.4	71.1	73.9	8.62	80.7

income. This is what the supply-siders would have predicted. The cut in tax rates for this high-income group appear to have increased incentives to work, to save and to invest and decreased incentives to avoid taxes. The large increases in taxable income suggests that these increased incentives were powerful and that they had a powerful effect on Korean economic growth.

A relation between tax rates and revenues also appears in the data. Table 4.1 shows tax revenues according to the tax rate above ten million won income. Prior to the 1982 tax cut, real tax revenues from tax payers with incomes above ten million won were decreasing by an average of 7.8% each year. With the reduction in tax rates in 1982, tax revenue paid by people with incomes above 10,000,000 won increased by 7.6% in 1982 and by 16.3% in 1983. Furthermore, with the reduction in tax rates in 1984, tax revenue again increased by 46.8% in 1984, by 37.2% between 1984 and 1986 (data for 1985 were unavailable), by 19.2% in 1987, and by 13.8% in 1988. Table 4.2 also shows the percentage of total tax revenue collected from taxpayers in this bracket. Before the tax cut, it had decreased from 72.5% in 1976 to 51.4% in 1981, but this group's contribution to total income tax revenue increased to 80.7% in 1988. This is a significant result because this evidence shows these high income people, just as in the U.S. after the Kennedy and Reagan tax cuts, paid a higher percent of overall income tax revenues after their marginal tax rates were cut.

In summary, above ten million won taxable income, the number of tax payers, the taxable income, and especially revenue in this high-income tax bracket increased significantly. Therefore, the conclusion can be made that lowering marginal tax rates contributed to income growth. As a growth in real income occurs, individuals have moved to higher income brackets. In this high-income group, tax revenue rose even

though the tax rate fell. This evidence is strikingly suggestive that these Korean taxpayers were in or close to the prohibitive region of the Laffer curve.

C. ANALYSIS OF TAX CUTS ABOVE 65 MILLION WON

Table 4.3 shows income tax rates for the group earning above 65 million won. Before the tax cut, during the period 1976-1981, this very high-income group experienced 60-70% marginal tax rates. With the first installment of the tax cut in 1982, the rate fell to 56-62%. With the next installment in 1984, the rate was 55%. The tax cuts for this income bracket affected the number of taxpayers, the taxable income, and the tax revenue.

Table 4.3 shows the number of taxpayers in this tax bracket from 1976-1988. Note that before 1982, the number of taxpayers decreased from 1,186 in 1978 to 742 by 1981. After the tax cuts, the number of taxpayers increased by 28% annually, from 748 in 1981 to 3,767 in 1988. Table 4.4 shows the percentage of this high-income group among all Korean taxpayers for each year. Before the tax cuts, the percentage of this group had decreased from 0.27% in 1976 to 0.13% in 1981. But after a small drop in 1982, the first year of the lower tax rate, the percentage increased dramatically to 0.54% in 1988. Thus the lower tax rates in 1982 and 1984 appear to have contributed to an increase in the number of taxpayers.

The taxable income of this group was also affected by the tax cuts. Table 4.3 shows the amount of taxable income for each year from 1976-1988. Notice that the taxable income for these high income taxpayers was decreasing as a percent of total taxable income prior to the tax cut, from 14.59% in 1976 to 9.86% in 1981. However, as shown in Table 4.4, this percent continued to fall even after the tax cut, from 9.86% in 1981 to 6.16% by 1983. Notice though that the percent increased after 1983 to 10.42% by 1988. This result makes sense because the taxpayers knew

TABLE 4.3: Analysis of Income Tax Cut (Above 65 Million Won Tax Brackets)

	1988		3,767	460,417	214,638
	1987		3,245	415,287	194,218
	1986	55	2,240	298,803	140,164
	1984	55	1,586	246,365	69,193 118,127 140,164 194,218 214,638
	1983	62	854	126,869	
YEAR	1982	$56 \sim 62$	748	127,353	70,171
	1961		742	211,901 179,571 151,477 127,353 126,869 246,365 298,803 415,287	95,476
	1980	$60 \sim 70$ $65 \sim 70$	764	179,571	113,416
	1979	02 ~ 09	1,143	211,901	124,496 132,555 131,063 113,416 95,476
	1978	00 ~ 70 60 ~ 70	1,186	204,911 214,705	132,555
	1976	02 ~ 09	1,076	204,911	124,496
	CLASSIFICATION	Tax Rate %	Tax Payers (Person)	Taxable Income* (million won)	Tax Revenue* (million won)

* Note: In 1985 Won (Table A.3 Price Indexes)

TABLE 4.4: Taxpayers, Tax Basis, and Tax Revenue for Taxpayers With Income Over 65 Million Won

						YEAR					
CLASSIFICATION	1976	1976 1978	1979	1980	1980 1981 1982 1983 1984 1986	1982	1983	1984	1986	1987	1988
Tax Payers (As a percent of all taxpayers)	0.27	0.27	0.24	0.14	0.13	0.12	0.12	0.21	0.26	0.24 0.14 0.13 0.12 0.12 0.21 0.26 0.49	0.54
Taxable Income (As a percent of all Taxable Income)	14.59	14.8	14.59 14.8 13.89 12.7 9.86 7.31 6.16 8.41 8.16 10.21 10.42	12.7	9.86	7.31	6.16	8.41	8.16	10.21	10.42
Tax Revenue (As a percent of all Tax Revenue)	31.2	31.2 30.1	32.1 24.1 26.3 22.1 18.5 24.5 22.0	24.1	26.3	22.1	18.5	24.5	22.0	27.6	27.1

the 1984 tax cut was coming. Income could have been deferred from 1982 and 1983 into 1984 by taxpayers having the flexibility to do so.

Table 4.3 shows tax revenues according to the tax rate for the above 65 million won tax bracket. Before 1982, tax revenue from this high-income group decreased by an average of 10.0% between the years 1978 and 1981. After the 1982 tax cut, tax revenue decreased by 26% in 1982 and by 1.4% in 1983. However, after the 1984 tax cut, tax revenues collected from this bracket increased by 70.7% in 1984, by 18.6% between 1984 and 1986, by 38.6% in 1987 and by 10.5% in 1988. Table 4.4 shows the percentage of collected tax revenues from these brackets. After the 1982 tax cut, the percentage had decreased by 21% in 1982 and by 16% in 1983. After the 1984 tax cut, a slight increase is shown but the contribution to total income tax revenue was still lower than the period from 1976-1981: 24.5\% in 1984, 27.6\% in 1987, and 27.1% in 1988 versus 31.2% in 1976, 34.1% in 1980, 26.3% in 1981. Before the 1982 tax cut, tax revenue from this high-income group as a percent of all tax revenue neither increased nor decreased steadily. Beginning in 1982, this percent fell, from 26.3% in 1981 to 28.1% in 1982, to 18.5% in 1983. But in 1984, this percent increased to 24.5% and increased further to 27.1% by 1988. Again this result is consistent with supply-side expectations because the high income taxpayers knew in 1982 that tax rates would fall further in 1984 and adjusted their behavior accordingly.

D. ANALYSIS OF THE INCOME TAX CUT BY PERCENTILE INCOME GROUP

The 1964 U.S. tax cut by percentile income group was discussed in *Economic Review* in March 1982 (Gwartney and Stroup, 1982, pp. 19-27). The 1964 U.S. tax cut shifted the tax burden toward the top five percent of the income taxpayers.

How did the Korean tax cuts of 1982 and 1984 change the tax burden by percentile income group?

Table 4.5 and Figure 4.1 show income tax revenues as a percent of all income tax revenues by income group from 1976-1988. As shown in Table 4.5, the tax burden for 0-50%, the lowest-income half of taxpayers, demonstrated little change: 3% in 1980, 3.3% in 1981, 3.2% in 1982, 3.5% in 1983, 3.5% in 1986, and 2.7% in 1988. A small increase of 4.1% occurred in 1984, but was followed by a decrease in 1987 to 2.5%. The tax burden for the 50-75 percentile group also showed little change. Therefore, the Korean tax cuts of 1982 and 1984 did not significantly reduce the tax burden as a percent of total income tax revenue for these two lower income categories.

On the other hand, the percentage of revenue collected from returns in the 75-95 percentile groups increased somewhat after the tax cuts. As shown in Table 4.5, the percentage of revenue from this income group changed from 23.8% in 1980 to 24.9% in 1981, but increased after the 1982 tax cut to 25.2%, to 26.2% in 1983, followed by an increase after the 1984 tax cut to 28.1% in 1986, 29.8% in 1987, and 27.6% in 1988. Therefore, the tax rate reductions of 1982 and 1984 show a shift in the tax burden to these percentile income groups.

The last income group, the top 5% (95-100%), showed a reverse outcome. As shown in Table 4.5, percentages of revenue collected from this group were 67.3% in 1980 and 64.9% in 1981 (before the tax cut). After the 1982 tax cut, decreases occurred to 64.7% in 1982 and 63.4% in 1983. Again after the 1984 tax cut, downward shifts to 62.0% in 1986, 61.1% in 1987, and 62.8% in 1988 occurred. Therefore, the tax rate reductions of 1982 and 1984 did not shift the tax burden to the very high-income taxpayers, but reduced their tax burden. This is the opposite of what happened with the 1964 U.S. tax cut.

TABLE 4.5: Tax Revenue Trend by Income Group

					Y	(EAR (%)	<u></u>				
GROUP	1976	1978	1979	1980	1981	1982	1983	1984	1986	1987	1988
							- {		,		2.0
0 - 50%	2.2	2.0	2.7	3.0	3.3	3.5		4.1	3.5	6.2	7.7
25 75 252519	6.9	5.7	5.7	5.9	6.9	6.9	6.9	7.3	6.4	9.9	6.9
	210	2 76	93.6	93.8	24.9	25.2	157	24.6	28.1	29.8	27.6
$c_0 \sim 30$ becomine	6.1.3	0.1.7	70.0			1	1	0 13	69.0	611	8 69
Ton 5%	2.99	67.8	68.0	67.3	64.9	04.1		0.4.0	0.20	1.10	2
Total	100 0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1000	2										

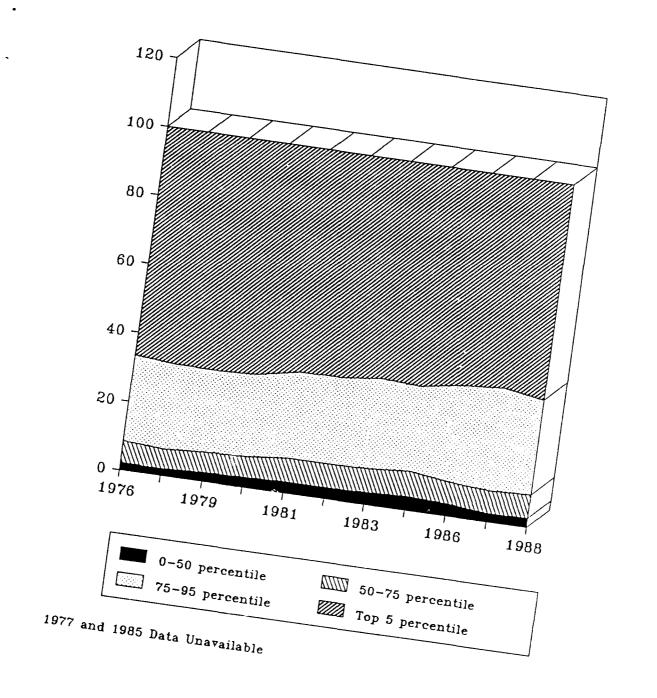


Figure 4.1: Tax Revenue Trend by Income Group

A taxpayer in the top 5% bracket whose rates were cut from 70% to 62% in 1982, kept 38 won of every additional 100 won earned versus 30 won before the tax cut. In 1984 their tax rates were cut to 55% again and 45 won of every additional 100 won earned was kept versus 38 won before the tax cut. Thus, this taxpayer's incentive to earn an additional 100 won of taxable income was increased by 26.7% in 1982 and by 18.4% in 1984. On the other hand, a taxpayer in the 76 percentile whose rates were cut from 21% to 12% after the tax cuts, kept 88 won of every additional 100 won earned versus 79 won before the tax cut. Thus, this taxpayer's incentive to earn additional 100 won of taxable income increased by only 11.3%. However, as shown in Table 4.5, the portion of the tax revenue from the 75 - 95 percentile increased continuously. The percent of income tax revenue from the top five percent income group decreased after the tax cuts. As pointed out previously this could be explained by the fact that the rich have paid substantially higher capital gains taxes.

As shown in Table 4.6, capital gains tax revenue as a percent of total income tax revenue increased remarkably from an average rate of 9.8% during 1976-1981 (before tax cuts) to an average rate of 64.4% during 1982-1986 (after tax cuts). This analysis shows that the higher-income taxpayers pay a disproportionately high share of capital gains taxes. Information on the changes in tax treatment of capital gains for these years was unavailable. This is a crucial gap in information that should be accounted for when evaluating these results.

TABLE 4.6: Trend of Capital Gains Tax Revenue

	1986	333,688	636,792	52.4%
	1984	409,213	482,697	84.8%
	1983	295,115	318,373 374,373	78.8%
	1982	170,843 295,115 409,213		53.7%
YEAR	1981	77,586	363,389	21.4%
	1980	29,122	440,356 408,667 332,417	8.8%
	1979	30,722	408,667	7.5%
	1978	21,162	440,356	4.8%
	1976	25,836	398,979	6.5%
	CLASSIFICATION	Capital Gains Tax Revenue	Total Income Tax Revenue	Capital Gains Tax Revenue as a percent of Total Income Tax Revenue

* Note: In 1985 Won (Table A.3 Price Indexes)
Source: Statistical Yearbook of National Tax, The Office of Tax Administration, 1977, p. 52; 1979, p. 51; 1980, p. 49; 1981, p. 49; 1982, p. 49; 1983, p. 49; 1984, p. 52; 1985, p. 49; 1987, p. 51.

V. CONCLUSIONS

A. SUMMARY

The primary objective of this thesis was to describe and evaluate the tax systems of Korea and to attempt to measure the effect of changes of the Korean tax rate on tax revenue. This thesis was based upon a study of data on Korean Individual Income Tax Rates and Tax Revenues in each tax bracket. To find "Where Are Koreans on the Laffer Curve?", three income areas were analyzed: a) above ten million won income, b) above 65 million won income, and c) the percentile income for each group.

B. ANALYSIS

Analysis of the tax cuts in the above ten million won income group showed that lowering marginal tax rates contributed to income growth and a higher level of tax revenue even with a falling tax rate. This evidence is suggestive that this group of Korean taxpayers was in the prohibitive region of the Laffer curve.

However, with the first installment of the tax cut in 1982, tax revenues fell with the fall in tax rate for taxpayers with incomes above 65 million won. This result makes sense because the taxpayers knew the 1984 tax cut was coming. Income could have been deferred from 1982 and 1983 into 1984 by tax payers having the flexibility to do so. Conversely, the reduction in tax rate in 1984 caused a rise in tax revenue for this high-income group. This evidence is strikingly suggestive that these Korean taxpayers were then in the prohibitive region of the Laffer curve.

Analysis of the income tax cuts by percentile income group showed that the Korean tax cuts of 1982 and 1984 did not significantly shift the tax burden to the

very high income taxpayers (the top 5% income group), but shifted it to the upper middle-income tax payers (the 75-95% income group). One reason for this result could be that the highest income taxpayers paid much more in capital gains taxes.

In conclusion, Korean income tax cuts affected income growth and increased tax revenue overall. From the "supply-side economics" viewpoint, one of the major causes of Korea's high growth is that the government has reduced marginal tax rates.

C. FUTURE DIRECTION

A follow-on study relating supply-side economics to the Korean tax system could expand this thesis by looking at provisions of the law on capital gains taxes.

The Korean income tax rates in the 1990s should be kept low, providing more incentive to work, save, and invest.

APPENDIX A: PRINCIPAL ECONOMIC INDICATORS

TABLE A.1

Gross National Product in Korea, 1954-1988

Year	Amount (Billion Won)	Real Growth Rate (%)	Per Capita GNP (US\$)
1954	67	6.0	
1955	116	5.1	
1956	152	1.2	
1957	198	8.8	82
1958	207	5.5	83
1959	221	4.4	83
1960	247	1.1	80
1961	297	5.6	82
1962	356	2.2	87
1963	503	9.1	100
1964	716	9.6	103
1965	806	5.8	105
1966	1,037	12.7	125
1967	1,281	6.6	142
1968	1,653	11.3	169
1969	2,155	13.8	210
1970	2,736	7.6	248
1971	3,375	8.8	285
1972	4,154	5.7	316
1973	5,378	14.1	396
1974	7,503	7.7	5 35
1975	10,092	6.9	591
1976	13,881	14.1	800
1977	18,115	12.7	1,028
1978	24,225	9.7	1,406
1979	31,248	6.5	1,662
1980	36,672	-5.2	1,605
1981	45,126	6.6	1,735
1982	50,725	5.4	1,800
1983	58,986	11.9	1,884
1984	66,408	8.4	1,999
1985	72,317	5.1	2,032
1986	88,197	12.9	2,503
1987	99,447	12.8	3,098
1988	111,575	12.1	4,040
	,- :-		-

Source: Data for 1954-1959 are taken from Bank of Korea, Economic Statistics Yearbook 1972, Tables 5 (I) and 5 (II). Data from 1960-1979 are taken from Bank of Korea, Economic Statistics Yearbook 1984, Table on Principal Economic Indicators (IV). Data for 1980-1985 are taken from Bank of Korea, Economic Statistics Yearbook 1986, Table 128. Data for 1986-88 are taken from Economic Planning Board, Korea Statistical Yearbook 1989, p. 465.

TABLE A.2

Balance of Payments in Korea, 1952-1988 (US \$million)

Voor	Funcata	Importo	- Trade Balance	Overall Balance
Year	Exports	Imports	Dalance	Datatice
1952	28	214	187	
1953	40	354	306	
1954	24	243	219	
1955	18	341	323	
1956	25	386	362	
1957	22	442	420	
1958	17	378	362	
1959	20	304	284	
1960	33	344	311	
1961	41	316	275	46
1962	55	422	367	- 57
1963	87	560	474	- 56
1964	119	404	285	- 3
1965	175	463	28 8	16
1966	250	716	466	119
1967	32 0	996	676	118
1968	455	1,463	1,008	- 14
1969	523	1,824	1,201	94
1970	835	1,984	1,149	- 4
1971	1,068	2,394	1,326	- 188
1972	1,624	$2,\!522$	898	164
1973	3,225	4,240	1,015	460
1974	4,460	6,851	2,391	1,094
1975	5,081	7,274	2,193	- 151
1976	7,715	8,774	1,059	1,174
1977	10,047	10,811	764	1,315
1978	12,711	14,972	2,261	- 402
1979	15,056	20,339	5,283	- 973
1980	17,505	22,292	4,787	-1,890
1981	21,254	26,131	4,877	-2,297
1982	21,853	24,251	2,398	-2,711
1983	24,445	26,192	1,747	- 384
1984	29,245	30,731	1,486	- 958
1985	30,283	31,136	853	-1,255
1986	34,715	31,584	+3,131	1,700
1987	47,281	41,020	+6,261	5,202
1988	60,696	51,811	+8,805	12,175

Sources: Bank of Korea, Economic Statistics Yearbook 1972, Principal Indicators (I), 1989, Principal Economic Indicators (IV).

TABLE A.3 Price Indexes in Korea, 1966-1988

Consumer Price 985 = 100) 9.8 10.9 12.1 13.6 15.7 17.9 20.0 20.6 25.6 32.1 37.0 40.7	Change (%) 11.4 10.2 11.0 12.4 15.4 14.0 11.7 3.0 24.3 25.4 15.3 10.0
9.8 10.9 12.1 13.6 15.7 17.9 20.0 20.6 25.6 32.1 37.0	(%) 11.4 10.2 11.0 12.4 15.4 14.0 11.7 3.0 24.3 25.4 15.3
9.8 10.9 12.1 13.6 15.7 17.9 20.0 20.6 25.6 32.1	11.4 10.2 11.0 12.4 15.4 14.0 11.7 3.0 24.3 25.4
10.9 12.1 13.6 15.7 17.9 20.0 20.6 25.6 32.1	10.2 11.0 12.4 15.4 14.0 11.7 3.0 24.3 25.4
12.1 13.6 15.7 17.9 20.0 20.6 25.6 32.1	11.0 12.4 15.4 14.0 11.7 3.0 24.3 25.4
13.6 15.7 17.9 20.0 20.6 25.6 32.1	12.4 15.4 14.0 11.7 3.0 24.3 25.4
15.7 17.9 20.0 20.6 25.6 32.1	15.4 14.0 11.7 3.0 24.3 25.4
17.9 20.0 20.6 25.6 32.1	14.0 11.7 3.0 24.3 25.4 15.3
20.0 20.6 25.6 32.1	11.7 3.0 24.3 25.4 15.3
20.0 20.6 25.6 32.1	11.7 3.0 24.3 25.4 15.3
20.6 25.6 32.1 37.0	3.0 24.3 25.4 15.3
25.6 32.1 37.0	24.3 25.4 15.3
32.1 37.0	25.4 15.3
40.7	10.0
46.6	14.5
55.1	18.2
70.9	28.7
86.2	21.6
92.3	7.1
	3.4
	2.3
100.0	2.5
102.8	2.8
1050	3.0
105.9	7.1

Source: Economic Statistics Yearbook, The Bank of Korea, 1989, p. 7.

APPENDIX B: GLOBAL INCOME TAX BY TAX BRACKETS

TABLE B.1: GLOBAL INCOME TAX BY TAX BRACKETS (1976)

		CLASS	SIFICATION	
TAX BRACKET	% TAX RATE	TAX PAYERS	TAXABLE INCOME	TAX REVENUE
under 0.240	8	135,965	14,609	1,169
$0.240 \sim 0.490$	10	69,334	24,047	2,072
$0.490 \sim 0.720$	12	41,510	24,492	2,341
$0.720 \sim 0.960$	15	29,314	24,451	2,612
$0.960 \sim 1.200$	18	22,077	23,485	2,797
$1.200 \sim 1.500$	21	19,413	26,229	3,551
$1.500 \sim 1.800$	25	14,382	23,725	3,620
$1.800 \sim 2.400$	30	20,285	42,140	7,554
$2.400 \sim 3.000$	35	13,447	36,201	7,684
$3.000 \sim 4.800$	40	19,098	71,762	18,759
$4.800 \sim 7.200$	45	8,775	50,881	16,220
$7.200 \sim 12.000$	50	5,064	45,701	17,174
$12.000 \sim 24.000$	55	2,228	36,070	16,005
$24.000 \sim 36.000$	60	479	14,163	7,099
$36.000 \sim 48.000$	65	183	7,646	4,106
48.000 ~ 100.000	70	313	26,929	16,622
$100.000 \sim 200.000$	70	62	8,470	5,488
200.000 ~	70	30	18,609	12,749
Total		401,968	519,612	147,622
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1977, p. 50.

TABLE B.2: GLOBAL INCOME TAX BY TAX BRACKETS (1978)

		CLASS	SIFICATION	
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 0.240	8	138,070	12,187	1,023
$0.240 \sim 0.480$	10	72,136	25,038	2,158
$0.480 \sim 0.720$	12	44,767	26,429	2,527
$0.720 \sim 0.960$	15	32,037	26,646	2,843
$0.960 \sim 1.200$	18	24,016	25,947	3,114
$1.200 \sim 1.500$	21	23,327	31,230	4,206
$1.500 \sim 1.800$	25	17,625	29,115	4,445
$1.800 \sim 2.400$	30	25,694	53,581	9,630
$2.400 \sim 3.000$	35	16,984	45,726	9,706
$3.000 \sim 4.800$	40	25,359	94,778	24,704
$4.800 \sim 7.200$	45	11,337	71,409	23,509
$7.200 \sim 12.000$	50	6,941	72,169	28,305
$12.000 \sim 24.000$	55	3,137	50,013	22,109
$24.000 \sim 36.000$	60	667	19,158	9,547
$36.000 \sim 48.000$	65	291	12,061	6,466
$48.000 \sim 100.000$	70	387	34,621	21,479
$100.000 \sim 200,000$	70	121	16,113	10,418
200.000 ~	70	80	27,979	19,016
Total		442,976	674,199	205,206
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1979, p. 50.

TABLE B.3: GLOBAL INCOME TAX BY TAX BRACKETS (1979)

		CLASS	SIFICATION	
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 0.420	8	187,779	35,433	2,835
$0.420 \sim 0.840$	10	83,819	50,616	4,357
$0.840 \sim 1.260$	12	47,980	48,759	4,642
$1.260 \sim 1.680$	15	32,069	46,587	4.968
$1.680 \sim 2.100$	18	23,550	44,092	5,266
$2.100 \sim 2.520$	21	18,241	42,081	5,619
$2.520 \sim 3.120$	25	19,109	54,039	8,184
$3.120 \sim 3.840$	30	15,561	53,749	9384
$3.840 \sim 4.800$	35	13,910	59,828	12,243
$4.800 \sim 7.200$	40	16,517	97,051	24,529
$7.200 \sim 9.600$	45	6,945	57,735	17,473
$9.600 \sim 14.400$	50	5,154	59,992	21,208
$14.400 \sim 28.000$	55	3,178	62,275	$26,\!551$
$28.800 \sim 43.200$	60	663	23,264	11,396
$43.200 \sim 57.600$	65	281	13,811	7,289
$57.600 \sim 100.000$	70	306	25,794	15,331
$100.000 \sim 200.000$	70	134	19,382	12,374
200.000 ~	70	90	46,136	31,524
Total		475,386	840,625	225,175
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1980, p. 48.

TABLE B.4: GLOBAL INCOME TAX BY TAX BRACKETS (1980)

	T .			
		CLASS	SIFICATION	
TAX	% TAX	TAX	TAXABI E	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 0.600	8	254,602	65,699	5,256
$0.600 \sim 1.200$	10	103,293	88,754	7,636
$1.200 \sim 1.800$	12	55,054	81,087	7,749
$1.800 \sim 2.400$	15	34,600	71,765	7,650
$2.400 \sim 3.000$	18	24,116	63,880	7,592
$3.000 \sim 3.600$	21	17,087	56,226	7501
$3.600 \sim 4.200$	24	12,762	49,523	7,291
$4.200 \sim 4.800$	27	9,440	42,329	6,841
$4.800 \sim 6.000$	30	12,753	67,898	12,335
$6.000 \sim 8.400$	35	12,697	89,367	19,470
$8.400 \sim 10.800$	40	5,459	51,430	13,203
$10.800 \sim 14.400$	45	3,952	48,522	14,369
$14.400 \sim 21.600$	50	2,789	48,234	16,838
$21.600 \sim 36.000$	55	1,424	38,199	15,757
$36.000 \sim 54.000$	60	495	21,237	10,025
$54.000 \sim 84.000$	65	242	16,030	8,438
$84.000 \sim 100.000$	70	88	8,087	4,571
$100.000 \sim 500.000$	70	207	46,823	30,212
500.000 ~	70	18	47,389	32,950
Total		551,078	1,002,482	235,683
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1981, p. 48.

TABLE B.5: GLOBAL INCOME TAX BY TAX BRACKETS (1981)

		CLASS	SIFICATION	
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 0.600	8	226,558	63,540	5,083
$0.600 \sim 0.600$	10	108,889	95,074	8,201
$1.200 \sim 1.200$	12	65,937	95,850	9,128
$2.400 \sim 2.400$	15	42,601	88,140	9,387
$3.000 \sim 3.000$	18	30,435	81,423	9,726
$3.480 \sim 3.600$	21	22,967	75,909	10,153
$3.600 \sim 4.200$	24	17,310	67,401	9,945
$4.200 \sim 4.800$	27	13,385	60,121	9,728
$4.800 \sim 6.000$	30	18,493	98,992	18,047
$6.000 \sim 9.400$	35	19,413	136,745	29,807
$9.400 \sim 10.800$	40	8,857	83,548	21,462
$10.800 \sim 14.400$	45	6,431	80,020	23,855
$14.400 \sim 21.600$	50	4,346	74,725	26,019
$21.600 \sim 36.000$	55	2,147	59,796	24,965
$36.000 \sim 54.000$	60	730	32,014	15,280
$54.000 \sim 84.000$	65	362	73,840	12,531
$84.000 \sim 100.000$	70	102	10,216	5,887
$100.000 \sim 500.000$	70	247	48,751	31,065
500.000 ∼	70	31	48,765	33,051
Total		589,241	1,323,870	313,241
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1982, p. 48.

TABLE B.6: GLOBAL INCOME TAX BY TAX BRACKETS (1982)

		CLASS	SIFICATION	
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
				ļ
under 1.200	6	306,473	155,870	9,352
$1.200 \sim 1.800$	8	73,657	108,755	6,936
$1.800 \sim 2.400$	10	48,859	101,330	7,280
$2.400 \sim 3.000$	12	36,543	98,784	7,909
$3.000 \sim 3.600$	15	27,850	91,976	8,283
$3.600 \sim 4.500$	18	29,436	118,556	12,333
$4.500 \sim 5.400$	21	20,852	103,023	12,440
$5.400 \sim 6.900$	24	21,677	132,432	18,687
$6.900 \sim 8.400$	28	14,198	107,291	17,563
$8.400 \sim 10.800$	32	11,979	112,706	21,501
$10.800 \sim 13.200$	36	6,919	81,845	18,103
$13.200 \sim 18.000$	40	6,058	92,210	23,708
$18.000 \sim 24.000$	44	3,060	63,158	18,931
$24.000 \sim 33.000$	48	2,016	56,249	19,198
$33.000 \sim 45.000$	52	1,057	40,409	15,543
$45.000 \sim 60.000$	56	508	26,287	11,177
$60.000 \sim 100.000$	62	431	36,632	18,154
$100.000 \sim 500.000$	62	312	56,999	32,040
500.000 ~	62	5	23,916	14,574
Total		611,890	1,608,470	293,635
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1983, p. 48.

TABLE B.7: GLOBAL INCOME TAX BY TAX BRACKETS (1983)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 1.200	6	343,964	190,5:17	11,436
$1.200 \sim 1.800$	8	91,505	134,20 7	8,540
$1.800 \sim 2.400$	10	59,397	123,514	8,786
$2.400 \sim 3.000$	12	42,487	113,588	9,029
$3.000 \sim 3.600$	15	32,360	105,752	9,455
$3.600 \sim 4.500$	18	33,726	135,429	14,055
$4.500 \sim 5.400$	21	24,057	118,009	14,173
$5.400 \sim 6.900$	24	26,086	159,695	22,598
$6.900 \sim 8.400$	28	17,719	133,855	21,904
$8.400 \sim 10.800$	32	15,329	145,139	27,820
$10.800 \sim 13.200$	36	9,189	109,109	24,144
$13.200 \sim 18.000$	40	8,080	124,332	32,159
$18.000 \sim 24.000$	44	4,182	87,021	26,182
$24.000 \sim 33.000$	48	2,580	72,582	24,813
$33.000 \sim 45.000$	52	1,336	51,844	20,045
$45.000 \sim 60.000$	56	718	37,371	15,920
$60.000 \sim 100.000$	62	523	41,479	20,187
$100.000 \sim 500.000$	62	313	55,981	31.396
500.000 ~	62	18	23,573	14,425
Total		713,569	1,963,078	357,152
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1984, p. 50.

TABLE B.8: GLOBAL INCOME TAX BY TAX BRACKETS (1984)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
	,			
under 1.800	6	393,122	331,812	19,908
$1.800 \sim 2.500$	8	88,000	184,711	11,609
$2.500 \sim 3.500$	10	70,250	215,802	15,538
$3.500 \sim 4.800$	12	55,588	231,779	19,141
$4.800 \sim 6.300$	15	42,281	228,273	21,556
$6.300 \sim 8.000$	18	32,256	226,897	25,068
$8.000 \sim 10.000$	21	23,665	208,515	26,536
$10.000 \sim 12.500$	24	17,310	191,981	28,263
$12.500 \sim 15.500$	27	12,566	171,715	28,719
$15.500 \sim 19.000$	31	8,457	144,263	27,604
$19.000 \sim 23.000$	35	5,863	122,255	26,466
$23.000 \sim 29.000$	3 9	4,478	114,818	28,224
$29.000 \sim 37.000$	43	3,066	100,528	28,314
$37.000 \sim 47.000$	47	1,827	75,473	23,802
$47.000 \sim 60.000$	51	1,135	60,092	21,313
$60.000 \sim 100.000$	55	1,126	90,303	37,704
$100.000 \sim 500.000$	55	539	104,469	51,831
500.000 ~	55	41	54,390	29,435
Total		761,570	2,858,261	471,112
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1985, p. 48.

TABLE B.9: GLOBAL INCOME TAX BY TAX BRACKETS (1986)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 1.800	6	390,567	321,678	19,291
$1.800 \sim 2.500$	8	102,094	215,457	13,561
$2.500 \sim 3.500$	10	82,758	244,716	17,354
$3.500 \sim 4.800$	12	68,292	281,799	23,162
$4.800 \sim 6.300$	15	54,118	294,704	27,969
$6.300 \sim 8.000$	18	41,417	293,926	32,653
$8.000 \sim 10.000$	21	32,299	287,288	36,784
$10.000 \sim 12.500$	24	24,051	271,308	40,365
$12.500 \sim 15.500$	27	18,119	253,304	42,952
$15.500 \sim 19.000$	31	12,743	220,606	42,596
$19.000 \sim 23.000$	35	8,940	189,139	41,309
$23.000 \sim 29.000$	39	7,154	186,075	46,071
$29.000 \sim 37.000$	43	4,849	161,786	45,982
$37.000 \sim 47.000$	47	2,951	123,360	39,258
$47.000 \sim 60.000$	51	1,868	99,598	35,432
$60.000 \sim 100.000$	55	1,758	141,867	59,350
$100.000 \sim 500.000$	55	696	127,018	62,466
500.000 ~	55	57	52,126	28,064
Total		854,731	3,765,757	654,622
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1987, p. 50.

TABLE B.10: GLOBAL INCOME TAX BY TAX BRACKETS (1987)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 1.800	6	283,771	477,384	12,210
$1.800 \sim 2.500$	8	66,979	205,069	8,847
$2.500 \sim 3.500$	10	60,373	239,306	13,550
$3.500 \sim 4.800$	12	55,708	287,018	18,778
$4.800 \sim 6.300$	15	43,627	282,407	22,444
$6.300 \sim 8.000$	18	34,522	279,343	26,863
$8.000 \sim 10.000$	21	27,522	272,620	31,474
$10.000 \sim 12.500$	24	23,124	282,739	38,120
$12.500 \sim 15.500$	27	17,813	269,601	41,608
$15.500 \sim 19.000$	31	13,612	250,150	45,295
$19.000 \sim 23.000$	35	9,724	217,268	45,145
$23.000 \sim 29.000$	39	8,676	237,145	56,493
$29.000 \sim 37.000$	43	6,095	208,904	57,118
$37.000 \sim 47.000$	47	8,847	166,429	51,738
$47.000 \sim 60.000$	51	2,609	143,683	50,331
$60.000 \sim 100.000$	55	2,529	200,836	82,619
100.000 ~	55	1,315	286,519	142,626
Total		661,906	4,303,221	744,339
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1988, p. 62.

TABLE B.11: GLOBAL INCOME TAX BY TAX BRACKETS (1988)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET	RATE	PAYERS	INCOME	REVENUE
under 1.800	6	269,856	476,323	13,228
$1.800 \sim 2.500$	8	75,025	235,198	9,955
$2.500 \sim 3.500$	10	66,377	265,501	13,874
$3.500 \sim 4.800$	12	62,166	320,563	20,396
$4.800 \sim 6.300$	15	49,930	320,774	25,578
$6.300 \sim 8.000$	18	39,755	330,524	31,994
$8.000 \sim 10.000$	21	32,254	322,357	37,252
$10.000 \sim 12.500$	24	27,506	330,252	46,807
$12.500 \sim 15.500$	27	21,826	324,082	50,807
$15.500 \sim 19.000$	31	16,060	294,079	54,330
$19.000 \sim 23.000$	35	11,967	264,132	$54,\!254$
$23.999 \sim 29.000$	39	10,457	281,626	66,755
$29.000 \sim 37.000$	43	7,552	253,291	69,113
$37.000 \sim 47.000$	47	5,011	211,684	65,571
$47.000 \sim 60.000$	51	3,051	166,781	58,274
$60.000 \sim 100.000$	55	3,223	255,351	103,123
100.000 ~	55	1,650	354,312	175,633
Total		703,666	5,006,830	897,084
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1989, p. 58.

APPENDIX C: GLOBAL INCOME TAX BY TAX BRACKETS (IN 1985 WON)

TABLE C.1: GLOBAL INCOME TAX BY TAX BRACKETS (1976)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 0.649	8	135,965	39,484	3,159
$0.649 \sim 1.297$	10	69,334	64,992	5,600
$1.297 \sim 1.946$	12	41,510	66,195	6,327
$1.946 \sim 2.595$	15	29,314	66,084	7,059
$2.595 \sim 3.243$	18	22,077	63,473	7,559
$3.243 \sim 4.054$	21	19,413	70,889	9,597
$4.054 \sim 4.865$	25	14,382	64,122	9,784
$4.865 \sim 6.486$	30	20,285	113,892	20,419
$6.486 \sim 8.108$	35	13,447	97,841	20,768
$8.108 \sim 12.973$	40	19,098	193,951	50,700
$12.973 \sim 19.459$	45	8,775	137,516	43,838
$19.459 \sim 32.432$	50	5,064	123,516	46,419
$32.432 \sim 64.865$	55	2,228	97,486	43,257
$64.865 \sim 97.297$	60	479	38,278	19,186
$97.297 \sim 129.730$	65	183	20,665	11,097
$129.730 \sim 270.270$	70	313	72,781	44,924
$270.270 \sim 540.541$	70	62	22,892	14,832
540.541 ~	70	30	50,295	34,457
Total		401,968	1,404,357	398,979
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1977, p. 50.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.2: GLOBAL INCOME TAX BY TAX BRACKETS (1978)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 0.515	8	138,070	26,152	2,196
$0.515 \sim 1.030$	10	72,136	53,730	4,631
$1.030 \sim 1.545$	12	44,767	56,715	5,423
$1.545 \sim 2.060$	15	32,037	57,202	6,101
$2.060 \sim 2.575$	18	24,016	55,680	6,682
$2.575 \sim 3.219$	21	23,327	67,017	9,028
$3.219 \sim 3.863$	25	17,625	62,479	9,539
$3.863 \sim 5.150$	30	25,694	114,981	20,665
$5.150 \sim 6.438$	35	16,984	98,124	20,828
$6.438 \sim 10.300$	40	$25,\!359$	203,386	53,013
$10.300 \sim 15.451$	45	11,337	153,240	50,448
$15.451 \sim 25.751$	50	6,941	154,869	60,740
$25.751 \sim 51.502$	55	3,137	107,324	47,444
$51.502 \sim 77.253$	60	667	41,111	20,487
$77.253 \sim 103.004$	65	291	25,882	13,876
$103.004 \sim 214.592$	70	387	74,294	46.092
$214.592 \sim 429,185$	70	121	35,577	22,356
429.185 ~	70	80	60,041	40,807
Total	[442,976	1,446,779	440,356
* In Million Won				i

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1979, p. 50.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.3: GLOBAL INCOME TAX BY TAX BRACKETS (1979)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 0.762	8	187,779	64,307	5,144
$0.762 \sim 1.525$	10	83,819	91,862	7,907
$1.525 \sim 2.287$	12	47,980	88,492	8,425
$2.287 \sim 3.049$	15	32,069	84,550	9.016
$3.049 \sim 3.811$	18	23,550	80,022	9,556
$3.811 \sim 4.573$	21	18,241	76,372	10,198
$4.573 \sim 5.661$	25	19,109	98,074	14,853
$5.662 \sim 6.969$	30	15,561	97,550	17,031
$6.969 \sim 8.711$	35	13,910	108,581	32,220
$8.711 \sim 13.067$	40	16,517	176,136	44,519
$13.067 \sim 17.423$	45	6,945	104,784	31,711
$17.423 \sim 26.134$	50	5,154	108,878	38,490
$26.134 \sim 52.269$	55	3,178	113,022	48,189
$52.269 \sim 78.403$	60	663	42,223	20,682
$78.403 \sim 104.537$	65	281	25,067	13,229
$104.537 \sim 181.488$	70	306	46,815	27,824
$181.488 \sim 362,976$	70	134	35,176	22,457
362.976 ∼	70	90	83,731	57,212
Total		475,386	1,525,635	408,667
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1980, p. 48.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.4: GLOBAL INCOME TAX BY TAX BRACKETS (1980)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 0.846	8	254,602	92,664	7,413
$0.846 \sim 1.692$	10	103,293	125,182	10,769
$1.692 \sim 2.539$	12	55,054	114,368	10,929
$2.539 \sim 3.385$	15	34,600	101,220	10,790
$3.385 \sim 4.231$	18	24,116	90,100	10,708
$4.231 \sim 5.078$	21	17,087	79,303	10,581
$5.078 \sim 5.924$	24	12,762	69,849	10,283
$5.924 \sim 6.770$	27	9,440	59,702	9,649
$6.770 \sim 8.463$	30	12,753	95,764	17,398
$8.463 \sim 11.848$	35	12,697	126,047	27,461
$11.848 \sim 15.233$	40	5,459	72,539	18,622
$15.233 \sim 20.310$	45	3,952	68,437	20,267
$20.310 \sim 30.465$	50	2,789	68,031	23,749
$30.465 \sim 50.776$	55	1,424	53,877	12,224
$50.776 \sim 76.164$	60	495	29,953	14,140
76.164 ~ 118.477	65	242	22,611	11,901
118.477 ~ 141.044	70	88	11,406	6,447
$141.044 \sim 705.219$	70	207	66,041	42,612
705.219 ~	70	18	66,841	46,474
Total		551,078	1,413,939	332,417
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1981, p. 48.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.5: GLOBAL INCOME TAX BY TAX BRACKETS (1981)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
		'		
under 0.696	8	226,558	73,712	5,897
$0.696 \sim 1.392$	10	108,889	110,295	9,514
$1.392 \sim 2.088$	12	65,937	111,195	10,589
$2.088 \sim 2.784$	15	42,601	102,251	10,890
$2.784 \sim 3.480$	18	30,435	94,458	11,283
$3.480 \sim 4.176$	21	22,967	88,061	11,778
$4.176 \sim 4.872$	24	17,310	78,191	11,537
$4.872 \sim 5.568$	27	13,385	69,747	11,285
$5.568 \sim 6.961$	30	18,493	114,840	20,936
$6.961 \sim 9.745$	35	19,413	158,637	34,579
$9.745 \sim 12.529$	40	8,857	96,923	24,898
$12.529 \sim 16.705$	45	6,431	92,831	27,673
$16.705 \sim 25.058$	50	4,346	86,688	30,184
$25.058 \sim 41.763$	55	2,147	69,369	28,962
$41.763 \sim 62.645$	60	730	37,139	17,633
$62.645 \sim 97.478$	65	362	27,657	14,537
$97.478 \sim 116.009$	70	102	11,852	6,829
$116.009 \sim 580.046$	70	247	56,556	36,038
580.046 ~	70	31	55,412	38,342
Total		589,241	1,535,812	363,389
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Adminis-

tration, 1982, p. 48.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.6: GLOBAL INCOME TAX BY TAX BRACKETS (1982)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 1.300	6	306,473	168,873	10,132
$1.300 \sim 1.950$	8	73,657	117,871	7,515
$1.950 \sim 2.600$	10	48,859	109,784	7,802
$2.600 \sim 3.250$	12	36,543	107,025	8,568
$3.250 \sim 3.900$	15	27,850	99,649	8,974
$3.900 \sim 4.875$	18	29,436	128,446	13,362
$4.875 \sim 5.850$	21	20,852	111,618	13,478
$5.850 \sim 7.476$	24	21,677	143,480	20,247
$7.476 \sim 9.101$	28	14,198	116,242	19,028
$9.101 \sim 11.701$	32	11,979	122,108	23,296
$11.701 \sim 14.301$	36	6,919	88,672	19,613
$14.301 \sim 19.502$	40	6,058	99,902	25,686
$19.502 \sim 26.002$	44	3,060	68,427	20,510
$26.002 \sim 35.753$	48	2,016	60,941	20,801
$35.753 \sim 48.754$	52	1,057	43,780	16,840
$48.754 \sim 65.005$	56	508	28,480	12,109
$65.005 \sim 108.342$	62	431	39,688	19,668
$108.342 \sim 541.712$	62	312	61,754	34,713
541.712 ~	62	5	25,911	15,790
Total		611,890	1,742,654	318,131
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1983, p. 48.

* Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.7: GLOBAL INCOME TAX BY TAX BRACKETS (1983)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 1.258	6	343,964	199,788	11,987
$1.258 \sim 1.887$	8	91,505	140,678	8,952
$1.887 \sim 2.516$	10	59,397	129,470	9,210
$2.516 \sim 3.145$	12	42,487	119,066	9,465
$3.145 \sim 3.774$	15	32,360	110,851	9,912
$3.774 \sim 4.717$	18	33,726	141,959	14,733
$4.717 \sim 5.660$	21	24,057	123,699	14,856
$5.660 \sim 7.233$	24	26,086	167,396	23,688
$7.233 \sim 8.805$	28	17,719	140,309	22,960
$8.805 \sim 11.321$	32	15,329	152,137	29,161
$11.321 \sim 13.836$	36	9,189	114,370	25,309
$13.836 \sim 18.868$	40	8,080	130,327	33,710
$18.868 \sim 25.157$	44	4,182	91,217	27,444
$25.157 \sim 34.591$	48	2,580	76,082	26,093
$34.591 \sim 47.170$	52	1,336	54,348	21,012
$47.170 \sim 62.893$	56	718	39,173	16,688
$62.893 \sim 104.822$	62	523	43,479	21,160
$104.822 \sim 524.109$	62	313	58,680	32,912
524.109 ~	62	18	24,710	14,121
Total		713,569	2,057,734	374,373
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1984, p. 50.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.8: GLOBAL INCOME TAX BY TAX BRACKETS (1984)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 1.844	6	393,122	339,971	20,398
$1.844 \sim 2.561$	8	88,000	189,253	11,894
$2.561 \sim 3.586$	10	70,250	221,109	15,921
$3.586 \sim 4.918$	12	55,588	237,478	19,612
$4.918 \sim 6.455$	15	42,281	233,886	22,086
$6.455 \sim 8.197$	18	32,256	232,476	25,684
$8.197 \sim 10.246$	21	23,665	213,642	27,189
$10.246 \sim 12.807$	24	17,310	196,702	28,958
$12.807 \sim 15.881$	27	12,566	175,938	29,425
$15.881 \sim 19.467$	31	8,457	147,810	28,283
$19.467 \sim 23.566$	35	5,863	125,261	27,117
$23.566 \sim 29.713$	39	4,478	117,723	28,918
$29.713 \sim 37.910$	43	3,066	103,001	29,009
$37.910 \sim 48.156$	47	1,827	77,330	24,469
$48.156 \sim 61.475$	51	1,135	61,570	21,837
$61.475 \sim 102.459$	55	1,126	92,525	38,631
$102.459 \sim 512.295$	55	539	107,222	53,106
512.295 ∼	55	41	55,645	30,159
Total		761,570	2,928,546	482,697
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Adminis-

tration, 1985, p. 48.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.9: GLOBAL INCOME TAX BY TAX BRACKETS (1986)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
				1
under 1.765	6	390,567	315,372	18,767
$1.765 \sim 2.451$	8	102,094	211,232	13,192
$2.451 \sim 3.431$	10	82,758	239,917	16,881
$3.431 \sim 4.706$	12	68,292	276,272	22,531
$4.706 \sim 6.176$	15	54,118	288,925	27,208
$6.176 \sim 7.843$	18	41,417	288,162	31,764
$7.843 \sim 9.804$	21	32,299	281,655	35,782
$9.804 \sim 12.255$	24	24,051	265,988	39,266
$12.255 \sim 15.196$	27	18,119	248,337	41,783
$15.196 \sim 18.627$	31	12,743	216,280	41,436
$18.627 \sim 22.549$	3 5	8,940	185,430	40,184
$22.549 \sim 28.431$	39	7,154	182,426	44,816
$28.431 \sim 36.275$	43	4,849	157,379	44,730
$36.275 \sim 46.078$	47	2,951	120,000	38,189
$46.078 \sim 58.824$	51	1,868	96,885	34,467
$58.824 \sim 98.039$	55	1,758	138,003	57,733
$98.039 \sim 490.196$	55	696	123,558	60,765
490.196 ~	55	57	50,706	27,299
Total	!	854,731	3,663,187	636,792
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1987, p. 50.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.10: GLOBAL INCOME TAX BY TAX BRACKETS (1987)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 1.700	6	283,771	450,788	11,530
$1.700 \sim 2.361$	8	66,979	194,399	8,354
$2.361 \sim 3.305$	10	60,373	225,974	11,851
$3.305 \sim 4.533$	12	55,708	271,027	17,732
$4.533 \sim 5.949$	15	43,627	266,673	21,194
$5.949 \sim 7.554$	18	34,522	263,780	25,366
$7.554 \sim 9.443$	21	27,522	257,432	29,720
$9.443 \sim 11.804$	24	23,124	266,987	35,996
$11.804 \sim 14.636$	27	17,813	250,804	39,365
$14.636 \sim 17.941$	31	13,612	236,213	42,771
$17.941 \sim 21.719$	35	9,724	205,163	42,630
$21.719 \sim 27.384$	39	8,676	223,933	53,346
$27.384 \sim 34.939$	43	6,095	197,265	53,936
$34.939 \sim 44.381$	47	8,847	157,157	48,856
$44.381 \sim 56.657$	51	2,609	135,678	47,527
$56.657 \sim 94.429$	55	$2,\!529$	189,647	78,016
94.429 ~	55	1,315	270,556	134,680
Total		661,906	4,063,476	702,870
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1988, p. 62.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

TABLE C.11: GLOBAL INCOME TAX BY TAX BRACKETS (1988)

	CLASSIFICATION			
TAX	% TAX	TAX	TAXABLE	TAX
BRACKET*	RATE	PAYERS	INCOME*	REVENUE*
under 1.587	6	269,856	420,038	11,753
$1.587 \sim 2.205$	8	75,025	207,406	8,814
$2.205 \sim 3.086$	10	66,377	234,128	12,235
$3.086 \sim 4.233$	12	62,166	282,683	17,986
$4.233 \sim 5.556$	15	49,930	282,869	22,556
$5.556 \sim 7.055$	18	39,755	291,467	28,213
$7.055 \sim 8.818$	21	32,254	284,265	32,850
$8.818 \sim 11.023$	24	27,506	291,228	41,276
$11.023 \sim 13.668$	27	21,826	285,787	44,803
$13.668 \sim 16.755$	31	16,060	259,329	47,910
$16.755 \sim 20.282$	35	11,967	232,921	48,666
$20.282 \sim 25.573$	39	10,457	248,347	58,867
$25.573 \sim 32.628$	43	7,552	223,361	60,946
$32.628 \sim 41.446$	47	5,011	186,670	57,822
$41.446 \sim 52.910$	51	3,051	147,073	54,388
$52.910 \sim 88.183$	55	3,223	225,177	90,937
88.183 ~	55	1,650	312,444	154,879
Total	,	703,666	4,415,194	791,079
* In Million Won				

Source: Statistical Yearbook of National Tax, The Office of National Tax Administration, 1989, p. 58.

^{*} Note: In 1985 Won (Table A.3 Price Indexes)

LIST OF REFERENCES

- 1. Bartlett, Bruce and Roth, Timothy P. The Supply-Side Solution, Chatham House Publishers, Inc., 1983.
- 2. Bosworth, Barry P., Tax Incentives and Economic Growth, The Booking Institution, 1984.
- 3. Fink, Richeard H., Supply-Side Economics, University Publications of America, Inc., 1982.
- 4. Gwartney, James D. and Stroup, Richard L., *Macroeconomics*, 4th ed., Harcourt, Brace, Jovanovich, 1987.
- 5. Gwartney, James D. and Stroup, Richard L., "Tax Cuts: Who Shoulders the Burden?," *Economic Review*, V.LXVII, pp. 19-27, March 1982.
- 6. Henderson, David R., Are We All Supply-Siders Now?, Western Economic Association International, 1989.
- 7. International Monetary Fund, Unclassified, Washington D.C., 20431, The Role of FAD Technical Assistance (1975-1989), 24 April 1990.
- 8. Korea Military Academy, Unclassified, P.O. Box 77, Kong Nung Dong Do Bong Gu, Seoul, Korea, Announcement of the Korean Tax Cuts, 21 May 1990.
- 9. Korean Overseas Information Service, Fact About Korea, Samhwa Printing Co., 1989.
- 10. Ministry of Finance, Korean Taxation, Government Printing Office, Seoul, Korea, 1987.
- 11. National Tax Administration, Korean Tax System, Government Printing Office, Seoul, Korea, p. 51, 1977.
- 12. National Tax Administration, Korean Tax System, Government Printing Office, Seoul, Korea, p. 51, 1987.
- 13. Rabushka, Alvin, Tax Policy and Economic Growth in Advanced Developing Nations, Stanford University, 1987.
- 14. Roberts, Paul C., The Supply-Side Revolution, Harvard University, 1984.

INITIAL DISTRIBUTION LIST

1.	Defense Technical Information Center Cameron Station Alexandria, Virginia 22304-6145	No. of Copies 2
2.	Library, Code 0142 Naval Postgraduate School Monterey, California 93943-5002	2
3.	Superintendent Chairman, Code AS Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943	1
4.	Superintendent David R. Henderson, Code AS/Ht Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943	3
5.	Superintendent Danny G. Matthews, Code AS/Ma Department of Administrative Sciences Naval Postgraduate School Monterey, California 93943	1
6.	Library, P.O. Box 77 Gong Neung Dong, Do Bong Ku Seoul, Republic of Korea	2
7.	Library, The National Assembly Yeo Yui Do Dong, Yung Dung Po Ku Seoul, Republic of Korea	2

8.	Son, Hyung Chan	2
	Yang Chun-Ku, Mock-Dong, Apt. #614-506	
	Seoul, Republic of Korea	
9.	Kim, Kyung Hye	3
	Seo Dae Moon-Ku, Yun Hee-Dong, #292-6	
	Seoul, Republic of Korea	
10.	Son, Hyung Il	2
	Yung Dung Po-Ku, Yeo Yui Do-Dong, #20	
	Lucky-Gold Star Twin Tower, West Wing 28th Story	
	Seoul. Republic of Korea	